

REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed March 4, 2009. The Applicant thanks the Examiner for such a thorough Office Action. In the Office Action, Fig. 4 has been objected to as failing to comply with 37 CFR 1.84(p)(5). In response, the Applicant has amended the Specification. The Applicant respectfully submits that no new matter has been added.

In addition, Page 9, line 33 of the Specification has been objected to because of informalities, as has page 10, line 2. Correction of the Specification can be found on page 3 of this Response. Further, the title of the invention has been objected to as not being descriptive. In response, the Applicant has submitted a new title of the invention.

In the Office Action claim 11 has been objected to for informalities and claim 17 is objected to under 35 USC §112. Both claims have been amended. In addition, claims 1-4, 6-10, and 15-17 have been objected to under 35 USC §101 as allegedly being directed to non-statutory subject matter. In response, claims 1-4, 6-10 and 15 – 17 have been amended.

In the Office Action claims 1, 2, 5-7, 9-11 and 15 have been rejected under 35 USC §103(a) as allegedly being unpatentable. In the current response, claims 1, 6, 10, and 11 have been amended and claims 2, 16, and 17 have been cancelled without prejudice.

I. REJECTIONS UNDER 35 USC § 103(a)

In the Office Action, claims 1, 2, 5-7, 9-11, and 15 were preliminarily rejected under 35 USC § 103(a) as allegedly being unpatentable over US Patent No. 4308423 to Cohen (hereafter, Cohen). In addition, claims 4, and 12-14 were preliminarily rejected under 35 USC § 103(a) as

allegedly being unpatentable over Cohen and US Patent No. 5199075 to Fosgate (hereafter, Fosgate).

It is well established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., In re Dow Chemical, 5 U.S.P.Q. 2d 1529, 1531 (Fed. Cir. 1988), and In re Keller, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

A. Independent Claim 1

Amended independent claims 1 reads:

1. A method, executing on hardware, for processing sound signals for a surround left channel (S_L) and a surround right channel (S_R), comprising the steps of:

generating a continually varying delay between the signals of the surround right channel (S_R) and the surround left channel (S_L), wherein the continually varying delay decorrelates the surround left channel (S_L) and the surround right channel (S_R), and wherein the continually varying delay varies over time so as not to have a fixed value;

processing the signals of the surround left channel (S_L), wherein processing of the signals of the surround left channel (S_L) includes the step of introducing a first delay to the signals of the surround left channel (S_L); and

processing the signals of the surround right channel (S_R), wherein processing of the signals of the surround right channel (S_R) includes the step of introducing a second delay to the signals of the surround right channel (S_R),

wherein the first delay and the second delay provide the continually varying delay between the signals of the surround right channel (S_R) and the surround left channel (S_L).

The Applicant respectfully submits that Cohen does not disclose, teach, or suggest all elements of amended independent claim 1. Specifically, Cohen teaches the application of delaying a difference signal (*i.e.*, utilizing a left minus right difference signal, delaying it, frequency contouring it, and then inserting it into the left channel and its inverse into the right channel). An example of this taught by Cohen includes feeding the left and right channels to a difference amplifier, the output of which is delayed by a bucket brigade device such as a serial analog delay, which is clocked at the appropriate rate for the required delay (Summary of the Invention). Once the ideal delay value in Cohen is set, it remains unchanged over time, thereby being time-invariant.

Contrary to Cohen, the presently pending invention does not use a difference signal. Instead, the present invention introduces a delay between corresponding frequency bands of surround left and surround right. This delay varies over time, and is therefore, time-variant. Therefore, the delay does not have a fixed value. Independent claim 1 has been amended to better reflect this fact, as well as the fact that a first delay is introduced to the signals of the surround left channel, while a second delay is introduced to the signals of the surround right channel, wherein the first delay and the second delay provide the continually varying delay between the signals of the surround right channel and the surround left channel.

Independent claim 1 has also been amended to make it clear that the present invention generates a continually varying delay between the signals of the surround right channel and the surround left channel, wherein the continually varying delay decorrelates the surround left channel and the surround right channel, and wherein the continually varying delay varies over time so as not to have a fixed value. In other words, to ensure that the varying delays introduced

into the left and right surround channels are effectively different from each other at any time, the continually varying delay is preferably generated so that the left and right surround channels are at all times decorrelated.

The Applicant respectfully submits that the limitations of amended independent claim 1 are not disclosed, taught, or suggested by the prior art, and that amended independent claim 1 is now in condition for allowance.

B. Dependent Claims 4 and 5

Since independent claim 1 is allowable over the prior art of record, its dependent claims 4 and 5 are allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Additionally and notwithstanding the foregoing, these dependent claims recite further features and/or combinations of features (as is apparent by examination of the claims themselves) that are patentably distinct from the prior art of record. Hence, there are other reasons why these dependent claims are allowable.

C. Independent Claim 6

Amended independent claim 6 reads:

A delay management unit (1) device for processing a surround right channel (S_R) and a surround left channel (S_L) of a stereo surround channel (S), wherein the delay management unit (1) comprises:

a number of variable delay units ($D_1, D_2, \dots, D_n, D'_1, D'_2, \dots, D'_n$) to provide a continually varying delay between the signals of the surround right channel (S_R) and the surround left channel (S_L), wherein the continually varying delay decorrelates the surround left channel (S_L) and the surround right channel (S_R), and wherein continually varying delay varies over time so as not to have a fixed value.

The Applicant respectfully submits that amended independent claim 6 is allowable for similar reasons to allowability of amended independent claim 1. For this reason, reference should be made to arguments with regard to amended independent claim 1, for reasons for allowance of amended independent claim 6.

D. Dependent Claims 7 and 9-15

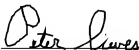
Since independent claim 6 is allowable over the prior art of record, its dependent claims 7 and 9-15 are allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Additionally and notwithstanding the foregoing, these dependent claims recite further features and/or combinations of features (as is apparent by examination of the claims themselves) that are patentably distinct from the prior art of record. Hence, there are other reasons why these dependent claims are allowable.

CONCLUSION

In light of the foregoing and for at least the reasons set forth above, the Applicant respectfully requests favorable reconsideration and allowance of the present application and the presently pending claims. If in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (603) 627-8134.

Respectfully submitted,

SHEEHAN, PHINNEY, BASS + GREEN, P.A.

A handwritten signature in black ink, appearing to read "Peter Nieves", is written over a horizontal line.

Peter A. Nieves
Attorney for Applicant
Reg. No.: 48,173

Customer No.: 57449
SHEEHAN PHINNEY BASS + GREEN, P.A.
1000 ELM STREET
MANCHESTER, NH 03101 U.S.A.
TEL: 603.668-0300
FAX: 603.627.8121